



1600

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/901,938A

DATE: 11/04/2003

TIME: 10:01:50

Input Set : A:\PTO.YF.txt

Output Set : N:\CRF4\11032003\I901938A.raw

3 <110> APPLICANT: ECONS, Michael WHITE, Kenneth STROM, Tim MEITINGER, Thomas

W--> 4 <120> TITLE OF INVENTION: NOVEL FIBROBLAST GROWTH FACTOR (FGF23) AND METHODS FOR

USE <130> 053884-

W--> 5 <140> CURRENT APPLICATION NUMBER: 09/901,938A

W--> 0 <130> FILE REFERENCE:

C--> 6 <141> CURRENT FILING DATE: 2001-07-10

8 <150> PRIOR APPLICATION NUMBER: 60/219,137

9 <151> PRIOR FILING DATE: 2000-07-19

W--> 10 <160> NUMBER OF SEQ ID: 35 <170> PatentIn version 3.0

13 <210> SEQ ID NO: 1

14 <211> LENGTH: 1612

15 <212> TYPE: DNA

16 <213> ORGANISM: Homo sapiens

18 <400> SEQUENCE: 1

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 21 aaaaggccag taaggcctgg gccaggagag tcccgcacagg agtgtcaggt ttcaatctca 120
 23 gcaccagcca ctgagagcag ggcacgatgt tgggggcccg cctcaggctc tgggtctgtg 180
 25 ccttgtgcag cgtctgcagc atgagcgtcc tcagagccta tcccaatgcc tcccactgc 240
 27 tcggctccag ctgggggtggc ctgatccacc tgtacacagc cacagccagg aacagctacc 300
 29 acctgcagat ccacaagaat ggccatgtgg atggcgccacc ccacagacc atctacagtg 360
 31 ccctgatgat cagatcagag gatgctggct ttgtggtgat tacagggtgtg atgagcagaa 420
 33 gatacctctg catggatttc agaggcaaca tttttggatc aactatttc gacccggaga 480
 35 actgcagggt ccaacaccag acgtggaaa acgggtacga cgtctaccac tctcctcagt 540
 37 atcacttctt ggtcagtcgt ggccgggcga agagagcctt cctgccaggc atgaaccac 600
 39 ccccgtaact ccagttctct tcccggagga acgagatccc cctaattcac ttcaacaccc 660
 41 ccataccacg gcggcacacc cggagcgccg aggacgactc ggagcgggac cccctgaacg 720
 43 tgctgaagcc cggggcccgg atgaccccgg ccccggcctc ctgttcacag gagctcccga 780
 45 gcgcggagga caacagcccg atggccagtg acccattagg ggtggtcagg ggcggtcgag 840
 47 tgaacacgca cgctggggga acgggcccgg aaggctgccg ccccttcgcc aagttcatct 900
 49 agggtcgctg gaagggcacc ctctttaacc catccctcag caaacgcagc tcttcccaag 960
 51 gaccagggtc ctgacgttc cgaggatggg aaagggtgaca ggggcatgta tgggaatttg 1020
 53 tgcttctctg gggctccctc cacaggaggt cctgtgagaa ccaacctttg aggcccaagt 1080
 55 catgggggtt caccgccttc ctactccat atagaacacc tttcccaata ggaaacccca 1140
 57 acaggtaaac tagaaatttc cccttcatga aggtagagag aagggtctc tcccaacata 1200
 59 tttctcttcc ttgtgcctct cctctttatc acttttaagc ataaaaaaa aaaaaaaa 1260
 61 aaaaaaaa aaaagcagtg ggttcctgag ctcaagactt tgaagggtgta gggaagagga 1320
 63 aatcgagat cccagaagct tctccactgc cctatgcatt tatgttagat gcccgcagtc 1380
 65 cactggcatt tgagtgtgca aaccttgaca ttaacagctg aatggggcaa gttgatgaaa 1440
 67 acactacttt caagccttcg ttcttcttg agcatctctg gggaagagct gtcaaaagac 1500
 69 tgggtggtagg ctggtgaaa cttgacagct agacttgatg cttgctgaaa tgaggcagga 1560
 71 atcataatag aaaactcagc ctccctacag ggtgagcacc ttctgtctcg ct 1612

74 <210> SEQ ID NO: 2

75 <211> LENGTH: 251

76 <212> TYPE: PRT

Does Not Comply
Corrected DocketingDoes Not Comply
Corrected Docketing

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77 <213> ORGANISM: Homo sapiens

79 <400> SEQUENCE: 2

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81 Met Leu Gly Ala Arg Leu Arg Leu Trp Val Cys Ala Leu Cys Ser Val
82 1          5          10          15
84 Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro Leu Leu
85          20          25          30
87 Gly Ser Ser Trp Gly Gly Leu Ile His Leu Tyr Thr Ala Thr Ala Arg
88          35          40          45
90 Asn Ser Tyr His Leu Gln Ile His Lys Asn Gly His Val Asp Gly Ala
91          50          55          60
93 Pro His Gln Thr Ile Tyr Ser Ala Leu Met Ile Arg Ser Glu Asp Ala
94 65          70          75          80
96 Gly Phe Val Val Ile Thr Gly Val Met Ser Arg Arg Tyr Leu Cys Met
97          85          90          95
99 Asp Phe Arg Gly Asn Ile Phe Gly Ser His Tyr Phe Asp Pro Glu Asn
100          100          105          110
102 Cys Arg Phe Gln His Gln Thr Leu Glu Asn Gly Tyr Asp Val Tyr His
103          115          120          125
105 Ser Pro Gln Tyr His Phe Leu Val Ser Leu Gly Arg Ala Lys Arg Ala
106          130          135          140
108 Phe Leu Pro Gly Met Asn Pro Pro Pro Tyr Ser Gln Phe Leu Ser Arg
109 145          150          155          160
111 Arg Asn Glu Ile Pro Leu Ile His Phe Asn Thr Pro Ile Pro Arg Arg
112          165          170          175
114 His Thr Arg Ser Ala Glu Asp Asp Ser Glu Arg Asp Pro Leu Asn Val
115          180          185          190
117 Leu Lys Pro Arg Ala Arg Met Thr Pro Ala Pro Ala Ser Cys Ser Gln
118          195          200          205
120 Glu Leu Pro Ser Ala Glu Asp Asn Ser Pro Met Ala Ser Asp Pro Leu
121          210          215          220
123 Gly Val Val Arg Gly Gly Arg Val Asn Thr His Ala Gly Gly Thr Gly
124 225          230          235          240
126 Pro Glu Gly Cys Arg Pro Phe Ala Lys Phe Ile
127          245          250

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129 <210> SEQ ID NO: 3

130 <211> LENGTH: 1559

131 <212> TYPE: DNA

132 <213> ORGANISM: Mus sp.

134 <400> SEQUENCE: 3

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135 agcctgtctg ggagtgtcag atttcaaact cagcattagc cactcagtgc tgtgcaatgc      60
137 tagggacctg ccttagactc ctggtgggcg tgctctgcac tgtctgcagc ttgggcactg      120
139 ctagagccta tccggacact tccccattgc ttggctccaa ctggggaagc ctgacccacc      180
141 tgtacacggc tacagccagg accagctatc acctacagat ccatagggat ggcatgtag      240
143 atggcacccc ccatcagacc atctacagtg ccctgatgat tacatcagag gacgccggct      300
145 ctgtggtgat aacaggagcc atgactcgaa gggtcctttg tatggatctc cacggcaaca      360
147 tttttggatc gcttcacttc agcccagaga attgcaagtt ccgccagtgg acgctggaga      420
149 atggctatga cgtctacttg tcgcagaagc atcactacct ggtgagcctg ggccgcgcca      480
151 agcgcattctt cagcccgggc accaaccgcg cgccttctc ccagttcctg gctcgcagga      540
153 acgaggtccc gctgctgcat ttctacactg ttcgcccacg gcgccacacg cgcagcgccg      600

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155 aggacccacc ggagcgcgac ccactgaacg tgctcaagcc gcggcccccgc gccacgcctg      660
157 tgcctgtatc ctgctctcgc gagctgccga gcgcagagga aggtggcccc gcagccagcg      720
159 atcctctggg ggtgctgcgc agaggccgtg gagatgctcg cggggggcgcg ggaggcgcg      780
161 ataggtgtcg cccctttccc aggttcgtct aggtcccccag gccaggctgc gtccgcctcc      840
163 atcctccagt cggttcagcc cacgtagagg aaggactagg gtacctcgag gatgtctgct      900
165 tctctccctt ccctatgggc ctgagagtca cctgcgaggt tccagccagg caccgctatt      960
167 cagaattaag agccaacggt gggaggctgg agaggtggcg cagacagttc tcagcaccca     1020
169 caaataacctg taattctagc tccaggggaa tctgtactca cacacacaca catccacaca     1080
171 cacacacaca cacatacatg taattttaaa tgttaatctg atttaaagac cccaacaggt     1140
173 aaactagaca cgaagctctt tttattttat tttactaaca ggtaaaccag acacttggcc     1200
175 tttattagcc ggggtctctt cctagcattt taatcgatca gttagcacga ggaaagagtt     1260
177 cacgccttga acacagggaa gaggccatct ctgcagcttc tagttactat tctgggattc     1320
179 acgggtgttt gagtttgagc accttgacct taatgtcttc actaggcaag tcgaagaaag     1380
181 acgcgcattt cttctctttg ggaagagctt tggattggcg ggaggctgac aaggacacct     1440
183 aaaccgaaca catttcagag ttcagcctcc ctgaggaatg attcgccaat gattctgtga     1500
185 taggaccagt cagtagcttt tgaatttgcc ctggctcagc aaagtctacc ttgctaggg     1559

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188 <210> SEQ ID NO: 4

189 <211> LENGTH: 251

190 <212> TYPE: PRT

191 <213> ORGANISM: Mus sp.

193 <400> SEQUENCE: 4

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195 Met Leu Gly Thr Cys Leu Arg Leu Leu Val Gly Val Leu Cys Thr Val
196 1          5          10          15
198 Cys Ser Leu Gly Thr Ala Arg Ala Tyr Pro Asp Thr Ser Pro Leu Leu
199          20          25          30
201 Gly Ser Asn Trp Gly Ser Leu Thr His Leu Tyr Thr Ala Thr Ala Arg
202          35          40          45
204 Thr Ser Tyr His Leu Gln Ile His Arg Asp Gly His Val Asp Gly Thr
205          50          55          60
207 Pro His Gln Thr Ile Tyr Ser Ala Leu Met Ile Thr Ser Glu Asp Ala
208 65          70          75          80
210 Gly Ser Val Val Ile Thr Gly Ala Met Thr Arg Arg Phe Leu Cys Met
211          85          90          95
213 Asp Leu His Gly Asn Ile Phe Gly Ser Leu His Phe Ser Pro Glu Asn
214          100         105         110
216 Cys Lys Phe Arg Gln Trp Thr Leu Glu Asn Gly Tyr Asp Val Tyr Leu
217          115         120         125
219 Ser Gln Lys His His Tyr Leu Val Ser Leu Gly Arg Ala Lys Arg Ile
220          130         135         140
222 Phe Gln Pro Gly Thr Asn Pro Pro Pro Phe Ser Gln Phe Leu Ala Arg
223 145          150          155          160
225 Arg Asn Glu Val Pro Leu Leu His Phe Tyr Thr Val Arg Pro Arg Arg
226          165          170          175
228 His Thr Arg Ser Ala Glu Asp Pro Pro Glu Arg Asp Pro Leu Asn Val
229          180         185         190
231 Leu Lys Pro Arg Pro Arg Ala Thr Pro Val Pro Val Ser Cys Ser Arg
232          195         200         205
234 Glu Leu Pro Ser Ala Glu Glu Gly Gly Pro Ala Ala Ser Asp Pro Leu
235          210         215         220

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Input Set : A:\PTO.YF.txt

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237 Gly Val Leu Arg Arg Gly Arg Gly Asp Ala Arg Gly Gly Ala Gly Gly
238 225          230          235          240
240 Ala Asp Arg Cys Arg Pro Phe Pro Arg Phe Val
241          245          250
243 <210> SEQ ID NO: 5
244 <211> LENGTH: 17
245 <212> TYPE: PRT
246 <213> ORGANISM: Homo sapiens
248 <400> SEQUENCE: 5
250 Cys Ser Gln Glu Leu Pro Ser Ala Glu Asp Asn Ser Pro Met Ala Ser
251 1          5          10          15
253 Asp
256 <210> SEQ ID NO: 6
257 <211> LENGTH: 25
258 <212> TYPE: DNA
259 <213> ORGANISM: Homo sapiens
261 <400> SEQUENCE: 6
262 cgggatccac gatgttgggg gcccg          25
265 <210> SEQ ID NO: 7
266 <211> LENGTH: 25
267 <212> TYPE: DNA
268 <213> ORGANISM: Homo sapiens
270 <400> SEQUENCE: 7
271 ggaattccta gatgaacttg gcgaa          25
274 <210> SEQ ID NO: 8
275 <211> LENGTH: 21
276 <212> TYPE: DNA
277 <213> ORGANISM: Homo sapiens
279 <400> SEQUENCE: 8
280 ataccacggc agcacaccg g          21
283 <210> SEQ ID NO: 9
284 <211> LENGTH: 21
285 <212> TYPE: DNA
286 <213> ORGANISM: Homo sapiens
288 <400> SEQUENCE: 9
289 ccgggtgtgc tgccgtggta t          21
292 <210> SEQ ID NO: 10
293 <211> LENGTH: 21
294 <212> TYPE: DNA
295 <213> ORGANISM: Homo sapiens
297 <400> SEQUENCE: 10
298 gcggcacacc tggagcgccg a          21
301 <210> SEQ ID NO: 11
302 <211> LENGTH: 21
303 <212> TYPE: DNA
304 <213> ORGANISM: Homo sapiens
306 <400> SEQUENCE: 11
307 tcggcgctcc aggtgtgccg c          21
310 <210> SEQ ID NO: 12

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RAW SEQUENCE LISTING

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DATE: 11/04/2003

TIME: 10:01:50

Input Set : A:\PTO.YF.txt

Output Set: N:\CRF4\11032003\I901938A.raw

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311 <211> LENGTH: 21
312 <212> TYPE: DNA
313 <213> ORGANISM: Homo sapiens
315 <400> SEQUENCE: 12
316 cggcacaccc agagcgccga g                21
319 <210> SEQ ID NO: 13
320 <211> LENGTH: 21
321 <212> TYPE: DNA
322 <213> ORGANISM: Homo sapiens
324 <400> SEQUENCE: 13
325 ctcggcgctc tgggtgtgcc g                21
328 <210> SEQ ID NO: 14
329 <211> LENGTH: 139
330 <212> TYPE: PRT
331 <213> ORGANISM: Homo Sapiens
333 <400> SEQUENCE: 14
335 Leu Lys Gly Ile Val Thr Arg Leu Phe Ser Gln Gln Gly Tyr Phe Leu
336 1 5 10 15
338 Gln Met His Pro Asp Gly Thr Ile Asp Gly Thr Lys Asp Glu Asn Ser
339 20 25 30
341 Asp Tyr Thr Leu Phe Asn Leu Ile Pro Val Gly Leu Arg Val Val Ala
342 35 40 45
344 Ile Gln Gly Val Lys Ala Ser Leu Tyr Val Ala Met Asn Gly Glu Gly
345 50 55 60
347 Tyr Leu Tyr Ser Ser Asp Val Phe Thr Pro Glu Cys Lys Phe Lys Glu
348 65 70 75 80
350 Ser Val Phe Glu Asn Tyr Tyr Val Ile Tyr Ser Ser Thr Leu Tyr Arg
351 85 90 95
353 Gln Gln Glu Ser Gly Arg Ala Trp Phe Leu Gly Leu Asn Lys Glu Gly
354 100 105 110
356 Gln Ile Met Lys Gly Asn Arg Val Lys Lys Thr Lys Pro Ser Ser His
357 115 120 125
359 Phe Val Pro Lys Pro Ile Glu Val Cys Met Tyr
360 130 135
362 <210> SEQ ID NO: 15
363 <211> LENGTH: 139
364 <212> TYPE: PRT
365 <213> ORGANISM: Homo Sapiens
367 <400> SEQUENCE: 15
369 Leu Lys Gly Ile Val Thr Arg Leu Tyr Cys Arg Gln Gly Tyr Tyr Leu
370 1 5 10 15
372 Gln Met His Pro Asp Gly Ala Leu Asp Gly Thr Lys Asp Asp Ser Thr
373 20 25 30
375 Asn Ser Thr Leu Phe Asn Leu Ile Pro Val Gly Leu Arg Val Val Ala
376 35 40 45
378 Ile Gln Gly Val Lys Thr Gly Leu Tyr Ile Ala Met Asn Gly Glu Gly
379 50 55 60
381 Tyr Leu Tyr Pro Ser Glu Leu Phe Thr Pro Glu Cys Lys Phe Lys Glu
382 65 70 75 80

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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 11/04/2003
PATENT APPLICATION: US/09/901,938A TIME: 10:01:51

Input Set : A:\PTO.YF.txt
Output Set: N:\CRF4\11032003\I901938A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:35; Xaa Pos. 2,3,4

VERIFICATION SUMMARY

PATENT APPLICATION: **US/09/901,938A**

DATE: 11/04/2003

TIME: 10:01:51

Input Set : **A:\PTO.YF.txt**

Output Set: **N:\CRF4\11032003\I901938A.raw**

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L:5 M:283 W: Missing Blank Line separator, <140> field identifier
L:0 M:201 W: Mandatory field data missing, <130> FILE REFERENCE
L:6 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:10 M:283 W: Missing Blank Line separator, <160> field identifier
L:1061 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:35
L:1070 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:35
L:1079 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0